AMENDMENTS TO THE CLAIMS

1. (original) A method of rapidly communicating information between a tool module of a robotic tool coupler and a robotic system communications network upon coupling a master module of said robotic tool coupler to said tool module, comprising:

coupling said master and tool modules of said robotic coupler, said master module including a robotic system communications network node;

communicating tool information from said tool module to said master module network node via a communication bus between said master and tool modules, said communication commencing within about 250 msec. after said coupling; and

communicating said tool information from said master module network node to said robotic system communications network.

2. (original) The method of claim 1 wherein said tool information communication to said master module network node via said communication bus commences within about 100 msec. after said coupling.

3. (original) The method of claim 2 wherein said tool information communication to said master module network node via said communication bus commences within about 10 msec. after said coupling.

4. (original) The method of claim 3 wherein said tool information communication to said master module network node via said communication bus commences within about 1 msec. after said coupling.

5. (original) The method of claim 1 wherein said communication bus is a serial bus.

6. (currently amended) A robotic tool changer, comprising:

a master module connected to a robotic system communications network and a tool module adapted to be coupled and decoupled to said master module; and

a clocked communication bus between said master and tool modules;

wherein said tool module is not connected to said robotic system communications network, and said tool module is operative to communicate tool information to said robotic system communications network via said master module.

7. (original) The tool changer of claim 6 wherein said clocked communication bus comprises at least one data line and at least one clock line.

8. (original) The tool changer of claim 7 wherein said at least one data line is differentially driven.

9. (original) The tool changer of claim 6 wherein said clocked communication bus is bi-directional.

10. (original) The tool changer of claim 6 wherein said clocked communication bus is a serial bus.

11. (original) The tool changer of claim 6 wherein said master module includes a robotic system communications network node.

12. (original) The tool changer of claim 11 wherein said tool module does not include a robotic system communications network node.

13. (original) The tool changer of claim 12 wherein said tool module communicates on said robotic system communications network through said master module node, via said clocked communication bus.

14. (original) A method of communicating information between a tool module of a robotic coupler and a robotic system communications network, comprising:

connecting said tool module to a master module of said robotic coupler, said master module including a robotic system communications network node;

supplying tool information from said tool module to said master module network node via a serial communication bus between said master and tool modules; and

communicating said tool information from said master module network node to said robotic system communications network.

15. (original) The method of claim 14 wherein said tool information is supplied to said tool module by a tool attached to said tool module.

16. (original) The method of claim 14 further comprising

communicating system information directed to said tool module from said robotic system communications network to said master module network node; and

supplying said system information from said master module network node to said tool module via said serial communication bus.

17. (original) The method of claim 16 further comprising supplying said system information from said tool module to a tool attached to said tool module.

18. (original) The method of claim 14 wherein said tool module does not include a robotic system communications network node.

19. (original) The method of claim 14 wherein said serial communication bus comprises two data lines.

20. (original) The method of claim 14 wherein said data lines are differentially driven.

21. (original) A robotic tool changer, comprising:

a master module connected to a robotic system communications network through a network node in said master module; and

a tool module adapted to be coupled and decoupled to said master module and not connected to said robotic system communications network, said tool module operative to communicate tool information to said robotic system communications network via said master module network node.

22. (original) The robotic tool changer of claim 21, further comprising:

a communication bus between said master and tool modules operative to commence communication within about 250 msec following the coupling of said master and tool modules.

23. (original) The robotic tool changer of claim 22 wherein said communication bus is operative to commence communication within about 100 msec following the coupling of said master and tool modules.

24. (original) The robotic tool changer of claim 23 wherein said communication bus is operative to commence communication within about 10 msec following the coupling of said master and tool modules.

25. (original) The robotic tool changer of claim 24 wherein said communication bus is operative to commence communication within about 1 msec following the coupling of said master and tool modules.

26. (original) The robotic tool changer of claim 22 wherein said communication bus is a serial bus.

27. (original) The robotic tool changer of claim 21 further comprising:

a clocked communication bus between said master and tool modules.